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BULLOUS ERYSIPELAS CAUSED BY *CITROBACTER KOSERI*

Dear Editor:

Citrobacter koseri is a Gram-negative bacillus belonging to the *Enterobacteriaceae* family commonly found in water, soil, food, and as an occasional colonizer of the gastrointestinal tracts of animals and humans. Despite its wide distribution, it is an uncommon cause of infection in humans due to its low virulence.[1] This organism exhibits a high degree of resistance to antibiotics due to inducible AmpC β-lactamase genes, and additional plasmid-mediated determinants of resistance might coexist. *C. koseri* is responsible for a wide range of infections, including urinary tract, respiratory, and intra-abdominal infections and, less commonly, central nervous system, skin, and soft tissue infections.[2] To our knowledge, no other cases of bullous erysipelas caused by *C. koseri* have been reported.

An 80-year-old woman with a medical history of heart failure, type 2 diabetes, and vascular dementia came from the neurology department to us for a dermatological consultation. On examination, we observed numerous bullous lesions on an erythematous background located on her lower left leg. Two days prior to our examination, she had undergone a vascular catheterization procedure on the same limb. Twenty-four hours later, she developed fever (with a temperature of 39.5°C), blisters, erythema, and intense pain on her lower left leg (Figure 1A). No other mucocutaneous lesions were found. These clinical features confirmed a diagnosis of bullous erysipelas, and we decided to perform bacterial and fungal cultures. A bacterial culture from needle aspiration of cutaneous lesions was positive for *C. koseri* (Figure 1B); fungal co-infection was ruled out by using a potassium hydroxide preparation and doing a culture. The antibiogram displayed sensitivity to meropenem, so the patient was treated with 1g of intravenous meropenem every eight hours for two weeks. The treatment was effective; after two weeks, the meropenem was discontinued and the patient was discharged and prescribed 500mg of oral levoxacin twice a day for two weeks. After four weeks of treatment, we observed a complete clinical recovery.

Erysipelas is an acute bacterial infection of the dermis and hypodermis associated with significant cutaneous inflammation. The typical clinical presentation includes leg or face tenderness, sharply demarcated erythema, and edema. Lymphangitis, lymphadenophaty, fever, and chills can be present. Bulla formation is considered a severe local complication of the disease.[3] The bullous form is observed in five percent of cases of erysipelas and tends to occur more frequently among women and people with liver or renal diseases.[3] Obesity, diabetes mellitus, chronic venous insufficiency, local trauma, and skin diseases like tinea pedis or eczema are reported as predisposing risk factors for erysipelas. *Streptococci* and *staphylococci* are the most common causes of erysipelas; however other bacteria, especially Gram-negative enteric organisms, can cause bullous erysipelas.[4] There are no cases described in the literature of bullous erysipelas due to *C. koseri*. *C. koseri* is a multidrug-resistant, opportunistic pathogen; more than 70 percent of *citrobacter* infections are nosocomial and frequently associated with invasive procedures.[2] This bacillus is a well-known cause of severe nervous system infections; in neonates, it is fatal in 30 percent of cases.[1] *C. koseri* is rarely responsible for skin infections, but a few recent case series reported folliculitis, skin abscesses, and wound infections.[3] *C. koseri* has developed resistance to multiple classes of antibiotics but, fortunately, it is sensitive to carbapenems and quinolones.[5] Management of these infections continues to be a challenge because of limited antimicrobial options and owing to the lack of publications dealing with this skin complication.

With regard,

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FIGURE 1. A) Numerous bullous lesions on an erythematous background; B) Bacterial culture positive for *Citrobacter koseri*

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